REMARKS/ARGUMENTS

Claims 1-7, 9, 13, 15, 17, 20-22, 32, 63, 84, 90 and 92 remain pending herein.

The Applicants thank Examiner DeBeradinis for the courtesies extended during a telephone interview conducted on July 11, 2006. The substance of the discussion during that interview is incorporated in the following remarks.

In the March 7, 2006 Office Action, claims 1, 4, 32, 63, 79, 90 and 92 were rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,583,521 (Lagod '521).

As discussed during the July 11, 2006 telephone interview, claim 1 recites a first sensor and a second sensor, in which the first sensor senses a magnitude of power consumed by a facility, and in which the second sensor senses a magnitude of power produced by at least one energy-producing system. Claim 1 further recites that the first sensor comprises a first sub-sensor which senses current through one or more external power lines, and a second sub-sensor which senses a net current through a combination of at least one internal power line connecting a main panel bus to an energy-producing system bus, and at least one internal power line connecting the energy-producing system bus to a critical load sub-panel bus. Claim 1 also recites that the second sensor comprises a third sub-sensor which senses a net current through the combination of power lines mentioned above in connection with the second sub-sensor.

By virtue of the first, second and third sub-sensors recited in claim 1, the monitor is able to sense the magnitude of power consumed by the facility and is able to sense the magnitude of power produced by the energy-producing system in any of the possible energy flow situations.

For example, if energy is being consumed by circuits on the main panel and by circuits on the sub-panel, and such energy is being supplied partly from the external source

and partly from the energy-producing system, the first sub-sensor will sense the current passing along the one or more external power line (which will be proportional to the total amount of energy supplied from the external source and consumed either by the circuits on the main panel or by the circuits on the sub-panel), and the second and third sub-sensors will each sense the net current passing along a combination of (a) the at least one internal power line connecting the main panel to the energy-producing system and (b) the at least one internal power line connecting the energy-producing system to the sub-panel. The sum of the reading from the first sub-sensor and the second sub-sensor will therefore be proportional to the total magnitude of energy being consumed by the facility because any energy which passes from the external energy source through the main panel to the sub-panel will be accounted for by the first sub-sensor and will cancel itself out in the second sub-sensor (because it passes in one direction as it travels from the main panel to the energy-producing system and in the opposite direction as it travels from the energy-producing system to the sub-panel), and any energy which passes from the energy-producing system to the sub-panel or to the main panel will be sensed by the second sub-sensor. The reading from the third sub-sensor will be proportional to the energy being produced by the energy-producing system because any energy which passes from the energy-producing system to either the sub-panel or the main panel will be sensed by the third sub-sensor.

Lagod '521 discloses an energy management system in which power generation equipment is located at the site of a consumer, and provides electrical power that supplements and/or replaces power delivered by a centralized power distribution network (Lagod '521, column 3, lines 50-54). The patent describes a possible example in which an electrical power consumer 10 has a number of different types of electrically powered equipment, represented as various loads (see Fig. 1a) and in which the different loads may have different levels of

priority (Lagod '521, column 3, lines 64 – column 4, line 4). Lagod '521 discloses that in addition to providing information regarding utilization of the individual on-site generators, it may be desirable to obtain information about the total power utilization at the consumer's site, and that such data can be obtained by sensing the current consumption at each load (Lagod '521, column 8, lines 33-39).

As discussed during the July 11, 2006 telephone interview, Lagod '521 fails to disclose or suggest a monitor, a facility or a method of sensing power in which there are provided second and third sub-sensors which sense a net current through a combination of (a) at least one internal power line connecting a main panel bus to an energy-producing system bus and (b) at least one internal power line connecting the energy-producing system bus to a critical load sub-panel bus, as recited in claims 1 (from which each of claims 2-7, 9, 13, 15, 17 and 20-22 each ultimately depend), 32 or 63.

Claim 92 recites a monitor which comprises a first sensor and a second sensor, the first sensor sensing a magnitude of power being consumed by a facility and the second sensor sensing a magnitude of power being produced by at least one energy-producing system. As recited in claim 92, the first sensor comprises at least one first sub-sensor and at least one second sub-sensor, in which the first sub-sensor senses a current passing through at least one external power line which connects at least one main panel bus to at least one external power source, and the second sub-sensor senses a current passing through at least one internal power line connecting the main panel bus to at least one energy-producing system bus. The second sensor comprises at least one third sub-sensor which senses current passing through the at least one internal power line.

By virtue of the first, second and third sub-sensors recited in claim 92, the monitor is able to sense the magnitude of power being consumed by the facility and is able to sense the

magnitude of power being produced by the energy-producing system in any of the possible energy flow situations, e.g., (1) where circuits on the main panel are supplied with energy from an external power source; (2) where circuits on the main panel are supplied with energy from an external power source and the energy-producing system; (3) where circuits on the main panel are supplied with energy from the energy-producing system alone; and (4) where energy is supplied to one or more circuits on the main panel and to the grid; and (5) where energy is supplied from the energy-producing system to the grid.

As discussed during the July 11, 2006 telephone interview, Lagod '521 fails to disclose or suggest a monitor which includes second and third sub-sensors which each sense a current passing through at least one internal power line connecting a main panel bus to at least one energy-producing system bus, as recited in claim 92.

Claim 90 recites a monitor which comprises a first sensor, a second sensor and a transducer, in which the first sensor senses a magnitude of a first net current passing through at least a first power line and generates a first signal having a voltage which is proportional to the first net current, and in which the second sensor senses a magnitude of a second net current passing through at least a second power line and generates a second signal having a voltage which is proportional to the second net current. Claim 90 further recites that the transducer comprises at least one circuit in which the first sensor and the second sensor are connected in series.

Lagod '521 fails to disclose or suggest a monitor which includes a transducer comprising a circuit in which a first sensor and a second sensor having the features as recited in claim 90 are connected in series.

Accordingly, in view of the above, it is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

Claims 2 and 3 were rejected under 35 U.S.C. §103(a) over Lagod '521 in view of U.S. Patent No. 5,270,896 (McDonald '896).

McDonald '896 is relied on in the March 7, 2006 Office Action for disclosure of a transformer configured to sense a net current flowing in a power connection. Any such disclosure in McDonald '896 would not overcome the shortcomings of Lagod '521 relative to claim 1, from which claims 2 and 3 each ultimately depend.

Accordingly, it is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

The Applicants thank Mr. DeBeradinis for the indication during the July 11, 2006 telephone interview that the claims which remain pending are allowable over the applied references. As suggested during the telephone interview, claim 79 has been canceled.

The March 7, 2006 Office Action contains an indication that claim 84 would be allowable if rewritten in independent form including all of the indications of the base claim and any intervening claims. In response, claim 84 has been amended as set forth above. It is respectfully noted that the features recited in claim 79 were previously recited in claim 84.

If the Examiner believes that contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

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